

PATENT  
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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Iwamoto and Tachikawa	Art Unit:	Not Yet Assigned
Serial No.:	10/529,452	Examiner:	Not Yet Assigned
Filed:	March 28, 2005	Customer No.:	21559
Title:	METHODS FOR ENHANCING EXOGENOUS EPITOPE DISPLAY ON MHC CLASS I THROUGH INHIBITION OF TAP ACTIVITY		

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INFORMATION DISCLOSURE STATEMENT

Applicants submit the references listed on the enclosed Form PTO-1449, copies of which are enclosed with the exception of U.S. patents, U.S. patent application publications, and those identified below. A copy of the International Search Report and International Preliminary Examination Report for PCT/JP2003/12595<sup>1</sup> is also enclosed.

Copies of AU 200068720 A1, EP 1211318 A1, and KR 2002013565 A are not enclosed as these references are patent family members of WO 01/18223 A1 (enclosed).

<sup>1</sup> The present application is the U.S. National Stage of PCT/JP2003/12595.

A copy of AU 200110750 A1 is not enclosed as this reference is a patent family member of WO 01/24810 A1 (enclosed).

AU 199464353 A1, EP 693125 A1, and US 2002/0123108 A1, are patent family members of WO 94/24290 A1 (which is in the English language and is enclosed), and are not enclosed.

As an explanation of the relevance under 37 C.F.R. § 1.98(a)(3)(i) of WO 01/57204 A1 and JP 2001-286282 (not enclosed), which are written in the Japanese language, patent family member EP 1170363 A1, which is written in the English language, is enclosed.

The following references were cited in the International Search Report and International Preliminary Examination Report for PCT/JP2003/12595:

EP 1170363 A1

WO 94/24290 A1

WO 98/47914 A2

WO 01/18223 A1

WO 01/57204 A1

WO 03/029475 A1

Früh et al., "A Viral Inhibitor of Peptide Transporters for Antigen Presentation," *Nature* 375(6530):415-418 (1995).

Hengel et al., "A Viral ER-Resident Glycoprotein Inactivates the MHC-Encoded Peptide Transporter," *Immunity* 6(5):623-632 (1997).

Hill et al., "Herpes Simplex Virus Turns Off the TAP to Evade Host Immunity," *Nature* 375(6530):411-415 (1995).

Johnson and Mook-Kanamori, "Dependence of Elevated Human Leukocyte Antigen Class I Molecule Expression on Increased Heavy Chain, Light Chain ( $\beta_2$ -Microglobulin), Transporter Associated with Antigen Processing, Tapasin, and Peptide," *J. Biol. Chem.* 275(22):16643-16649 (2000).

Langlade-Demoyen et al., "Primary Cytotoxic T Lymphocyte Induction Using Peptide-Stripped Autologous Cells," *Int. Immunol.* 6(11):1759-1766 (1994).

Mottez et al., "Cells Expressing a Major Histocompatibility Complex Class I Molecule with a Single Covalently Bound Peptide Are Highly Immunogenic," *J. Exp. Med.* 181(2):493-502 (1995).

Ramani et al., "Site-Specific Gene Delivery *In Vivo* through Engineered Sendai Viral Envelopes," *Proc. Natl. Acad. Sci. USA* 95(20):11886-11890, 1998.

Tafuro et al., "Reconstitution of Antigen Presentation in HLA Class I-Negative Cancer Cells with Peptide- $\beta_2$ m Fusion Molecules," *Eur. J. Immunol.* 31(2):440-449, 2001.

Submission of this statement is not a representation that a search has been made, nor is the inclusion of information in this statement an admission that the information is material to patentability.

This statement is being filed before the receipt of a first Office Action on the merits.

If there are any charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

Date: 8 June 2005

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SUBSTITUTE FORM PTO-1449  
(MODIFIED)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT  
(Use several sheets if necessary)

(37 C.F.R. § 1.98(b))

Attorney Docket No.

50026/051001

Serial No.

10/529,452

Applicant

Iwamoto and Tachikawa

Filing Date

March 28, 2005

Group

Not Yet Assigned

IDS Filed

June 8, 2005

U.S. PATENTS

Examiner's Initials	Patent/Publication Number	Issue/Publication Date	Patentee	Class	Subclass	Filing Date (If Appropriate)
	5,869,270	Feb. 9, 1999	Rhode et al.			

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	AU 199464353 A1	Nov. 8, 1994	Australia			
	AU 200068720 A1	Apr. 10, 2001	Australia			
	AU 200110750 A1	May 10, 2001	Australia			
	EP 693125 A1	Jan. 24, 1996	EPO			
	EP 1170363 A1	Jan. 9, 2002	EPO			
	EP 1211318 A1	Jun. 5, 2002	EPO			
	JP 2001-286282 A	Oct. 16, 2001	Japan			
	KR 2002013565 A	Feb. 20, 2002	Korea			
	WO 94/24290 A1	Oct. 27, 1994	WIPO			
	WO 98/47914 A2	Oct. 29, 1998	WIPO			Abstract only
	WO 01/18223 A1	Mar. 15, 2001	WIPO			Yes
	WO 01/24810 A1	Apr. 12, 2001	WIPO			

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)

	Ahn et al., "The ER-Luminal Domain of the HCMV Glycoprotein US6 Inhibits Peptide Translocation by TAP," <i>Immunity</i> 6(5):613-621 (1997).
	Altman et al., "Phenotypic Analysis of Antigen-Specific T Lymphocytes," <i>Science</i> 274(5284):94-96 (1996).
	Früh et al., "A Viral Inhibitor of Peptide Transporters for Antigen Presentation," <i>Nature</i> 375(6530):415-418 (1995).
	Hasan et al., "Creation of an Infectious Recombinant Sendai Virus Expressing the Firefly Luciferase Gene from the 3' Proximal First Locus," <i>J. Gen. Virol.</i> 78(Pt 11):2813-2820 (1997).
	Hengel et al., "A Viral ER-Resident Glycoprotein Inactivates the MHC-Encoded Peptide Transporter," <i>Immunity</i> 6(5):623-632 (1997).
	Hill et al., "Herpes Simplex Virus Turns Off the TAP to Evade Host Immunity," <i>Nature</i> 375(6530):411-415 (1995).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.

SUBSTITUTE FORM PTO-1449 (MODIFIED)  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)  (37 C.F.R. § 1.98(b))			Attorney Docket No. Serial No. Applicant Filing Date Group IDS Filed		50026/051001 10/529,452 Iwamoto and Tachikawa March 28, 2005 Not Yet Assigned June 8, 2005	
U.S. PATENTS						
Examiner's Initials	Patent/Publication Number	Issue/Publication Date	Patentee	Class	Subclass	Filing Date (If Appropriate)
	2001/0006950 A1	Jul. 5, 2001	Punnonen et al.			
	2002/0123108 A1	Sep. 5, 2002	Edwards et al.			
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION						
Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	WO 01/57204 A1	Aug. 9, 2001	WIPO			
	WO 02/38726 A2, A3	May 16, 2002	WIPO			
	WO 03/029475 A1	Apr. 10, 2003	WIPO			Yes
	WO2004/031380 A1	Apr. 15, 2004	WIPO			Yes
OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)						
	Ikeda-Moore et al., "Identification and Characterization of Multiple HLA-A24-Restricted HIV-1 CTL Epitopes: Strong Epitopes Are Derived from V Regions of HIV-1," <i>J. Immunol.</i> 159(12):6242-6252 (1997).					
	Johnson and Mook-Kanamori, "Dependence of Elevated Human Leukocyte Antigen Class I Molecule Expression on Increased Heavy Chain, Light Chain ( $\beta_2$ -Microglobulin), Transporter Associated with Antigen Processing, Tapasin, and Peptide," <i>J. Biol. Chem.</i> 275(22):16643-16649 (2000).					
	Kang et al., "Induction of Melanoma Reactive T Cells by Stimulator Cells Expressing Melanoma Epitope-Major Histocompatibility Complex Class I Fusion Proteins," <i>Cancer Res.</i> 57(2):202-205 (1997).					
	Kato et al., "The Paramyxovirus, Sendai Virus, V Protein Encodes a Luxury Function Required for Viral Pathogenesis," <i>EMBO J.</i> 16(3):578-587 (1997).					
	Kato et al., "Sendai Virus Gene Start Signals Are Not Equivalent in Reinitiation Capacity: Moderation at the Fusion Protein Gene," <i>J. Virol.</i> 73(11):9237-9246 (1999).					
	Langlade-Demoyen et al., "Primary Cytotoxic T Lymphocyte Induction Using Peptide-Stripped Autologous Cells," <i>Int. Immunol.</i> 6(11):1759-1766 (1994).					
	Mottez et al., "Cells Expressing a Major Histocompatibility Complex Class I Molecule with a Single Covalently Bound Peptide Are Highly Immunogenic," <i>J. Exp. Med.</i> 181(2):493-502 (1995).					
	Nagai, "Paramyxovirus Replication and Pathogenesis. Reverse Genetics Transforms Understanding," <i>Rev. Med. Virol.</i> 9(2):83-99 (1999).					
	Ramani et al., "Site-Specific Gene Delivery <i>In Vivo</i> through Engineered Sendai Viral Envelopes," <i>Proc. Natl. Acad. Sci. USA</i> 95(20):11886-11890 (1998).					
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U.S. PATENTS						
Examiner's Initials	Patent/Publication Number	Issue/Publication Date	Patentee	Class	Subclass	Filing Date (If Appropriate)
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Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
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	Tafuro et al., "Reconstitution of Antigen Presentation in HLA Class I-Negative Cancer Cells with Peptide- $\beta_2$ m Fusion Molecules," <i>Eur. J. Immunol.</i> , 31(2):440-449, 2001.					
	Toshitani et al., "Expression of a Single-chain HLA Class I Molecule in a Human Cell Line: Presentation of Exogenous Peptide and Processed Antigen to Cytotoxic T Lymphocytes," <i>Proc. Natl. Acad. Sci. USA</i> 93(1):236-240, 1996.					
	Uger et al., "Covalent Linkage to $\beta_2$ -Microglobulin Enhances the MHC Stability and Antigenicity of Suboptimal CTL Epitopes," <i>J. Immunol.</i> 162(10):6024-6028, 1999.					
	Uger and Barber, "Creating CTL Targets with Epitope-linked $\beta_2$ -Microglobulin Constructs," <i>J. Immunol.</i> 160(4):1598-1605, 1998.					
	White et al., "Soluble Class I MHC with $\beta_2$ -Microglobulin Covalently Linked Peptides: Specific Binding to a T Cell Hybridoma," <i>J. Immunol.</i> 162(5):2671-2676, 1999.					
	Yu et al., "Sendai Virus-Based Expression of HIV-1 gp120: Reinforcement by the V(-) Version," <i>Genes Cells</i> 2(7):457-466, 1997.					
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